

# Model for Oroville Facilities (HYDROPS)

## Why Local Operations Model (LOM)?

- CALSIM II provides a big picture using a monthly time-step
- LOM provides detailed analysis on hourly varying parameters
- LOM provides optimal hourly operational results for other analyses

## LOM's Outputs

*Hourly results:*

- Level and storage for Oroville Facilities
- Generation and pump-back flow for all turbines and plants
- Generation and pumping energy for all turbines and plants
- Reservoir spill, Hyatt low-level outlet and Feather River flows
- Generation for Oroville Facilities

**Weekly results:**

- Oroville Facilities' power generation
- Reservoir level, river flow, plant discharge and spill

## LOM (HYDROPS) Characteristics

- CALSIM II outputs are used for boundary conditions and targets
- Deterministic, linear optimization model
- Basic parameters: flow, reservoir level, and power generation
- Hourly time-step for weekly time horizon
- HYDROPS: a proprietary model



## LOM's Inputs

***Physical characteristics and limitations:***

- Reservoir, Power plants, Spillway, Canal, Turbines, etc.

*From CALSIM II and others:*

- Inflow, diversion, and evaporation
- Flood control curve (COE)
- Flow and level targets
- Energy price index

**Operating constraints:**

- Operating min/max for basic parameters
- Stage and flow fluctuation and ramping
- Instream flow and licensing restrictions

# LOM (HYDROPS) Features

## Scenario and Version Concept

- A version is a data set for one input data type.
- A scenario is a collection of versioned input data of various data types and of the optimized results.
- Capability to create and save many study scenarios with minimal data entry.

## Soft and Hard Constraints

- Hard constraints: physical limits
- Soft constraints: desirable operating range

### Convenient User Interface

